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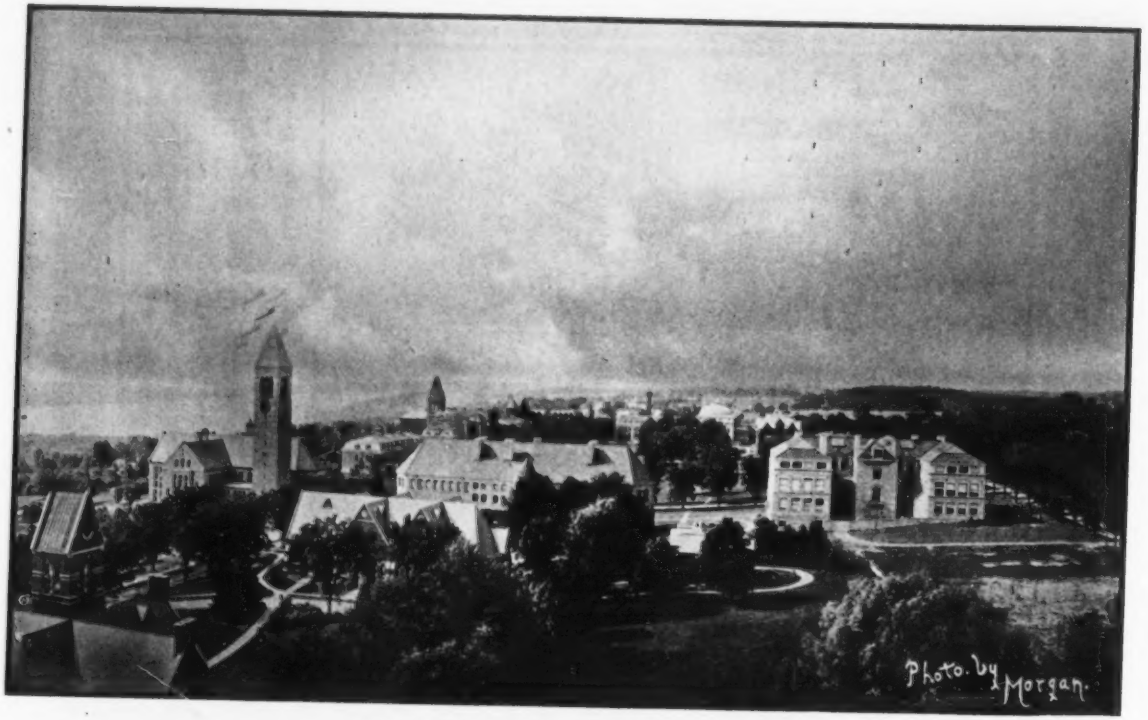

A VIEW ON THE CAMPUS

THE CORNELL COUNTRYMAN

Vol. I DECEMBER, 1903 No. 1

THE OUTLOOK FOR AGRICULTURAL TEACHING

By L. H. Bailey

Director of the College of Agriculture

The solution of all human problems must come through education. Education, therefore, must reach all the people: how to reach them effectively is the one perennial question. It is clear that the people must be reached by means of the things with which they work and by which they live. We are constantly adding new subjects to our curriculums, thereby reaching more and more persons: at last, every subject with which men engage will be put in pedagogic form and be made means whereby men are educated.

There are probably twenty-five millions of people on the farms in the United States. All these multitudes must be reached. They can be reached, when their own native subjects are made teachable and attractive. These people are interested in their business: we cannot force them, by any educational process, to be attracted by exotic subjects. One by one the professions have been reached by the schools—law, medicine, and the rest. One by one, also, the trades are being reached,—the phenomenal success of the schools of engineering and mechanics attest this fact.

Unless the progress of the race shall cease, all the agricultural trades also will be reached. In due time, everything comes to its own. The farming people are coming.

This, then, is the burden of the new agricultural education—to reach the agricultural people in terms of their daily lives, to the end that their lives may be fuller and stronger. It is sometimes said that the agricultural colleges are unsuccessful. This is an error. We must remember that we are living in a city-making epoch, and at a time when all the mechanic and transportational trades are being developed. It is the tendency of governments to foster these trades. All these movements bring men together. Affairs are syndicated. Along with the other enterprises, the technical colleges of mechanics have developed. It is largely by contrast with the mechanical and engineering colleges that we misjudge the agricultural colleges. The agricultural trades are legion and they are scattered. The individual investments are small. There are relatively few great organized or syndicated business movements among the agricultural people. The agricultural trades are likely to be the last ones benefitted by governmental policies. Moreover, the real agricultural development of the country has not yet come. We have merely exploited the land—moving on and on when the first flush of fertility has vanished. The development of the country as a whole has been along political and mechanical lines for the most part. When we have skimmed the surface of the whole country with the plow, we shall turn to the old lands to begin a real and fundamental agricultural development.

In all this period of transition and of waiting, the agricultural colleges have been striking at fundamental problems. They have been experimenting with means and methods of teaching. Presently we shall be astonished to discover the extent and the value of the work they have done. Sentiment and custom seem everywhere to have been against the farmer. We cannot overcome the traditions of centuries in a day. It is only a generation of men since agriculture began to take a serious part in educational enterprises, and a generation of men is a short space as measured by the evolution of

any great subject. As one considers the history of education, the surprise is that agriculture should have secured even a foothold in the colleges and universities within thirty or forty years, let alone acquiring a standing co-ordinate with many other subjects. Forty years of experimenting have passed. We begin to see the way. The next ten years will see greater progress than the past forty years have seen. Cornell University stands between the old and the new. It holds to all that is good in traditional means of educating, and then it adds thereto, as rapidly as it is able, all the subjects whereby men toil and live. It is its everlasting glory that it should have developed such an institution as Sibley College, thereby raising the mechanic trades to their full importance and dignity in the affairs of men. The great agricultural activities must now have their turn, for in agriculture now lies the greatest special educational field yet to be developed.

Everywhere there is evidence of this new awakening of interest in agriculture. The very growth of the cities sets up a reaction toward the country. With all their tremendous development, the mechanic arts still employ only one-fourth as much fixed capital as agriculture does. The periodical literature seems almost to have an agricultural and country-life flavor. Problems of agricultural education are now engaging the attention of educators and publicists in all walks of life. This is inevitable, because it is by means of such education that the great mass of the out-city people must be reached. What is the educational problem in the South and the West but the problem of reaching the country people? And even in old New York, how are we effectively to reach the one million and more country people except through an educational enterprise that is essentially agricultural? All these persons are citizens; they contribute to the public welfare; they often hold the balance of power; what, then, is the plain duty of the schools?

All this is a pedagogical question. Heretofore, the agricultural colleges have given the larger part of their energies to the problem of increasing the production of the farms. This effort will continue; but for the next generation the emphasis will be laid on the means of reaching the farmer rather than reaching his crops. The great questions of economics and sociologics and politics as related to agriculture are practically untouched. The farm home-life must be reached. Farm literature must be quickened and developed. The whole man who lives in the country must be touched. We must not wait till he is grown before we attempt to reach him. The child's mind must be opened to its environment, to the end that it may love the country better and be content to live therein. It would seem to be a self-evident proposition that the child's mind should first be developed by means of the objects and phenomena that are at its fingers, but we begin by those that are no part of its life. All this is changing rapidly. The whole question of the rural schools is one for the agricultural college to attack and to help to solve.

It is astonishing what has been the growth of agricultural education enterprise within a few years, slow as it seems to have been. When the Land Grant Act was passed in 1862 it was popularly supposed that one professor of agriculture and one of the mechanic arts would satisfy all requirements. If we choose a contrast from Cornell University, we find that the College of Mechanic Arts now has a staff of 41 persons and the College of Agriculture of 33 persons. In time, every mechanic trade and every agricultural trade will be represented in these institutions. Whether the students attending the colleges of agriculture will ever be as many as those attending the colleges of mechanic arts remain to be seen. The problems of agricultural education are peculiar, and must be solved for themselves, and in their own way. Much of the work must always be the carrying of instruction to the people rather than bringing the people to the instruction. The old academic methods must be very greatly modified.

The problems are of a different order from those to which we have been accustomed. But whatever the methods, the results must finally be the solving of one of the greatest remaining problems in democratic education.

THE FARMERS' INSTITUTE MOVEMENT

By F. E. Dawley

Director of Farmers' Institutes for New York

It is probable that no one agency has ever done so much for the advancement of agriculture in America as the establishment of the land grant colleges. These had not been in operation very long, however, before the necessity of more accurate information in relation to agricultural subjects was apparent, and following the land grant college came the experiment station. Comparatively few people availed themselves of the advantages of university agricultural education, and some means of popularizing the work of the experiment station and making available to a larger number of people the immense amount of valuable information which was being obtained seemed needful. To meet this necessity the farmers' institutes were established. At the very first their value was apparent to thinking agriculturists, but they were not so popular as they might have been from the fact that many of the practical farmers stood in awe of the scientific investigator, the college professor and the "book farmer" who came to their meetings, and the attendance was not what was wished. A little unbending on the part of the instructors and their hearers as well, aided wonderfully in bringing them together, and at the present day no branch of agricultural instruction is so popular as the institute movement. This is easily attested from the fact that nearly all states have provided in one way or another for the maintenance of farmers' institutes, and the United States government, realizing the necessity of securing more uniform work in all sections and pushing forward this means of instruction in states where it is not already established has created a division of its bureau of experiment station work, and appointed an officer known as Farmers' Institute Specialist, whose duty it is to inquire into means and methods, and report.

Few states are doing as much for the Bureau of Farmers' Institutes as New York, where $20,000 is provided yearly and last year 312 institutes were held, something over 160 different speakers were present and addressed audiences aggregating nearly 100,000 people. In a state like New York where the agricultural interests are so varied a wide range of subjects must be covered, which calls for specialists in very many lines at the various meetings, and an intimate knowledge of the agricultural conditions in the various sections of the state in placing them. From attendance at institutes in many other states, I am convinced that on the whole the New York State farmers are as thoroughly advanced in their specialties as any men to be found. It is pretty hard work for a speaker to give the potato specialists of eastern Long Island anything very new in relation to cultural methods, and the man who attempts to speak on apple growing in western New York must remember that many a man in his audience has not only made a success of this branch of horticulture, but has made a competency in following it. In dairy sections can be found men who have fed cows and established world's records, and in other parts of the state horsemen who have bred and trained world's record makers. It is the exception to find a farmer in the state who cannot read understandingly matter that is quite technical in the direction in which he is most interested, and our farmers' wives on the average have a better common school education than the average resident of

the towns and cities. Even though this is true there is much room for improvement, and to meet the problems which are constantly arising more information is needed.

The farmers' institute endeavors to bring this knowledge practically to the door of the farmer, and by word of mouth to impress upon him the advantage of securing all the light possible regarding his occupation and living up to it. The institute also impresses upon the young men who are just starting out in life that under present conditions farming offers as good inducements for a bright boy as any other calling, and besides gives one the opportunity of life in the country where he is enabled to keep in close touch with nature and enjoy through all his years the very things that most men are striving for when they can afford it.

This year something over 300 institutes will be held in New York state, and judging by the attendance at the initial meetings the number who will avail themselves of the instruction will be greater this year than last. A Normal Institute was held at Geneva and Ithaca the last of November to increase the efficiency of our work and establish greater uniformity in the statements which are made, sorting out the facts from the theories, the false from the true, the practical from the impractical, and establish for the work a higher standard than ever before.

A READING COURSE FOR HOUSEWIVES

By Martha Van Rensselaer

Supervisor Farmers' Wives' Reading Course

The only reading course instituted for farmers' wives is at Cornell University. It is a part of the extension work provided by state appropriation for agricultural purposes, and touches the farm home more than the outside interests of the farm.

This course was instituted by the same men who superintended the Farmers' Reading Course and the Nature Study in the school and home. They have recognized the fact that upon the farm home woman depends much of the success of the farmer in his work, and indirectly much of the success of the community, for upon their work together there is great dependence for the physical comforts of life.

It is a mistaken conclusion that women are divided into two classes, farmers' wives and other wives, and that the laws of society and the standard of intelligence are indicated by these two distinctions. The women of the city and country have in many instances grown up together, studied in the same schools, and graduated from the same course of study. Later, some have settled in the city or village while others have remained on the farm or have gone there because they have married farmers. To be sure, there is a difference in environment,—those conditions which effect the growth of women intellectually and spiritually. However, while one is broadened along the lines of entertainment, culture, and knowledge of persons and of the world, the other has inspiration and culture from nature and the benefits of more quiet reading and helpful living.

The farmer's wife needs to become intelligent along the lines of home making. It is said that housekeeping is based upon ten sciences. If this is true, the farmer's wife makes use of the whole ten. She has opportunity also to show her talent as an artist in home and personal decoration. She becomes at times her own milliner and dressmaker, and for want of opportunity to secure the help of specialists, she makes herself capable of doing everything needed in the home.

She is her husband's partner in the economic side of life. While he is more closely related to his home in presence and personal helpfulness than most men, because his occupation leads him to make the farm his headquarters,

she, at the same time is bound to interest herself in the outside work of the farm. In the busy times on a farm, she hurries the housework in order to assist in the outdoor work which may be in accordance with her strength. This work added to her household duties may be heavy for her, yet she is physically benefited by exercise out of doors, for which her sisters in the city and village have not the opportunity.

Of recent years, the farmer's wife has been much benefited by the advantages afforded by the Grange and Farmers' Institute. She has attended these meetings with her husband as an interested partner. The demand is becoming greater all the time for work especially adapted to her needs to be presented in these meetings.

With these conditions in mind, the Extension Department at Cornell University, which we have said was supported by state appropriation, has instituted a course for women, with special reference to the farm women, by which they may receive literature which will lighten the burden of housekeeping and lead readers to regard the work of the home as one of interest and inspiration, rather than one of drudgery.

Three years ago a letter was sent from the Extension Department to the farmer's wife, asking if she would be interested in a course parallel to that of her husband in the Farmer's Reading Course. The response in the way of letters and names sent for the lessons lead to the preparation of a series of lessons which are to comprise a three years' course of reading. These lessons are upon various subjects of home life,—Saving Steps, Home Sanitation, Saving Strength, Practical Housekeeping, Reading in the Farm Home, The Farm Home and Rural School, Foods, and Home Decoration. A quiz accompanies each lesson which allows the reader to express her own ideas relative to the subjects treated.

The third year of the course is just being entered upon with a membership of fifteen or sixteen thousand women, most of whom are in rural communities. It has been found an advantage to organize clubs among rural woman in order to secure a greater interest among themselves, and to admit co-operation along the lines of study for home improvement. Several clubs have been organized already in the state and members are pursuing the study of home life, some with no other literature than that sent out by the University, while others are using the Traveling Library afforded by the State Library at Albany. A nominal fee is charged to pay for transportation, and the books may be retained for six months if desired. A certificate of registration is granted by the Extension Department for work done in these clubs.

The chief work of the Reading Club consists in preparing and sending out lessons upon home life subjects, examining the quizzes returned, attending to correspondence with members as well as speaking at granges and clubs upon the subjects introduced into the course.

Give fools their gold, and knaves their power;
Let fortune's bubbles rise and fall;
Who sows a field, or trains a flower,
Or plants a tree, is more than all.

* * * * *

And, soon or late, to all that sow,
The time of harvest shall be given;
The flowers shall bloom the fruit shall grow,
If not on earth, at last in heaven!

—*J. G. Whittier.*

NATURE STUDY AT CORNELL

By Mary Clement Shepperson, '06

Nature-study is one of the great educational movements of the day. It has to do with one's outlook on the world, with the harmonizing of people with their environment. It takes the child to the fields and woods, and there by the sympathetic study of air and water, soils, sunlight, frost, living things that move and living things that remain where they begin life—all the wonders that the "rolling year" brings before the inquisitive mind of the child—it broadens the horizon and educates the individual.

IS THE SEED COMING UP?

The movement originating at Cornell is well known throughout the country on account of the university extension work in New York State. This is an effort to improve the material condition of the farmer by enlightening his mind, and to add to his happiness by putting him in sympathetic relation to his surroundings. The object of the Junior Naturalist Clubs, as stated in their charter, is that the children may "love the country, and be content to live therein." The work is carried on through the teachers of the rural schools, but the College of Agriculture of Cornell University has supervision of all the clubs, and by monthly publications and by correspondence supplies the necessary instruction, and keeps up the enthusiasm for investigation. The leader in this work is Professor L. H. Bailey. A scientist, author and teacher, he deems nature-study worthy of his best powers, and inspires all who know him with the dignity and strength of the work. But he could not accomplish all that he is now doing if he did not have the able assistance of Mr. J. W. Spencer, the chidren's "Uncle John," Mrs. Anna Botsford Comstock, and Miss Alice G. McCloskey.

As the desire for nature-study in the schools became universal there

arose a demand for specially prepared teachers. To meet this demand the College of Agriculture of Cornell is now giving a two-year course in nature-study. Botany, zoology, geology, entomology, agricultural chemistry, and physiography, give the teacher a scientific foundation for his work. Although nature-study is not science, it must be built upon fact. The nature-study point of view is obtained from seminaries and from personal contact with the leaders of the movement.

This being the first year of the course, everything is in its beginning. But even now, those who are specializing along this line realize how great is their opportunity. Their work is not confined to the university laboratories. One of the public schools of Ithaca has been thrown open to them for practice teaching. Here, while the student-teacher is opening the eyes of the children to the common things about them, her own eyes are being opened to child life and to the best way of reaching young minds. So far, the lessons given have been on the autumn trees and shrubs, the dispersal of seeds, insects, the fossils so abundant in the rocks of Ithaca, and the fungi that destroy the farmer's crops. Each student has the advantage of the actual teaching, and of the observation from lessons given by others. When the class work is over several children from each room are taken to the fields and woods, where things are studied in their natural conditions. Some interesting experiments in plant physiology are being planned for the winter months, and when spring comes, then, will the children begin their school gardening, with Professor Bailey to show them how. Other plans are being matured, and there is a spirit of vigor, growth, and progress pervading the whole work.

SOME FEATURES OF EXCEPTIONAL INTEREST AT THE RECENT MEETING OF THE AMERICAN POMOLOGICAL SOCIETY IN BOSTON.

By John Craig, Secretary

The twenty-eighth biennial session of this society was in many respects an epoch-making session. It brought the members back to the city of Boston, always fragrant with early memories of pomological endeavor; it connected the past with the present by bringing together the aggressive commercial horticulturist of to-day with the amateur fruit lover of New England. In this respect it was unique. Probably nowhere in the country is the amateur spirit so dominant as in Boston and its environs. Fruits are still examined critically and judicially, and passed upon according to intrinsic quality-merits as well as upon the basis of extrinsic market-values. More time was devoted, too, to the amateur side than has been wont at recent horticultural councils. Sentiment, philosophy, history and education were delightfully interwoven with practical issues in the make-up of the program. Is not this as it should be? Are we not too much prone to consider the commercial side alone?

An important event occurring at this meeting was the birth of the new Society for Horticultural Science. The promoters of this society were anxious to have it clearly understood that the proposed field of the society would in no way trench upon the provinces of the American Pomological Society. There is no doubt that the two organizations will supplement and increase the efficiency of each other.

Boston, in many respects, is an ideal meeting place for a society interested in things out-of-doors. The library of the Massachusetts Horticultural Society is a feature which captured the interest of many of the horticultural students. The city is unique in possessing a hall erected exclusively for the promotion of practical and theoretic horticulture. The vicinity of

Boston abounds in points of interest historically and horticulturally. Among these may be mentioned Bunker Hill Monument, the State House, Faneuil Hall, Harvard University, Arnold Arboretum, the Metropolitan Park system, and the many vegetable forcing establishments in the vicinity of Arlington. While the time of those attending the meeting was very thoroughly occupied, yet opportunity was afforded to visit many of these places during the progress of the meeting.

Program.—This may roughly be divided into five groups: (1) The amateur and educational group. In this group such papers as the noted address by Professor Bailey on "the attitude of the schools to country life"; the amateur school garden as viewed by the fruit-grower and the strict amateur, were presented. The address by Professor Bailey was received with profound interest, and was unquestionably the leading feature of the entire program. (2) Commercial fruit culture. Making up this group were a number of papers dealing with the handling of the fruit from and including the time it was taken from the orchard to its final destination in the hands of the consumer. The various phases of grading, packing and cold storage facilities were handled by competent men. (3) A general report by the chairman of the fruit committee, being a condensed, yet broad, statement of the present trend and progress of fruit culture in the different states of the Union and the provinces of Canada. This report in itself is invaluable to the man who wishes information in regard to the fruit prospects from the grower's standpoint in the different parts of the country. (4) An entire session was given up to a symposium on the "progress of pomology in America," and this was indeed a great treat. The printed "proceedings" of this session will furnish an exceedingly valuable repository of historical fact relating to fruit growing. Especially is this true of the comprehensive review of the development of horticulture in the middle-west, presented by Colonel G. B. Brackett of Washington. Not less valuable were the papers from those representatives of New England, Canada, the southern Atlantic states and the Pacific coast. (5) Mr. Charles W. Garfield, chairman of the Executive Committee, was responsible for a particularly enjoyable evening which might be entitled "a chapter on ideals." These "ideals" covered not only types of fruit grown for dessert or market, but touched the fruit-grower himself, whether amateur or commercial, and the various views of those chosen to represent the nineteen ideals presented will, when brought together, offer a powerful inspiration to those who are engaged in, or are considering the possibility of taking up the cultivation of fruits.

Important Resolutions. — Among the resolutions passed (there were not a great many of them) there were one or two of especial cogency. A committe was appointed and instructed to formulate a reasonable and workable scheme of judging fruits by points. This was dubbed the "score-card" committee. The committee will work in conjunction with the management of the Louisiana Purchase Exposition and are expected to present an *ad interim* report, or if not that, a report at the next meeting of the society.

A committee was also authorized to formulate a system of definitions covering very explicitly the various grades of apples placed upon the market. These definitions to be sufficiently accurate and lucid as to be a real guide to the packer. This committee was given authority to draw up an act which, if passed, will be expected to enforce the honest packing of fruits.

Among the reports adopted was one important one entitled "a code of nomenclature," and adapted to pomological conditions. This code is a modification of the Cornell Horticulturists' Lazy Club code proposed and offered to the public some four years ago.

The following officers were elected to conduct the business of the society during the next biennial term: President, J. H. Hale, South Glastonbury, Conn.; First Vice-president, Charles

W. Garfield, Grand Rapids, Mich.; Secretary, John Craig, Ithaca, N. Y.; Treasurer, L. R. Taft, Agricultural College, Michigan; Chairman of Executive Committee, C. L. Watrous, Des Moines, Iowa.

DODDER IN NEW YORK ALFALFA FIELDS

By J. L. Stone

Assistant Professor of Agronomy

The dodders, of which there are a number of varieties, have for many years caused much trouble for the farmers of the old world, but while known here have not done sufficient damage in the United States to attract much attention from farmers. They are parasitic plants, that is they live on other plants. The seeds, like those of other plants, germinate in the soil, but instead of depending upon the soil for nourishment, the young plants soon twine around the host plant, sending a sort of rootlet or filament into the structure of the host plant so as to feed upon its juices. The dodder then severs its connection with the soil and thereafter lives upon the host plant, usually to the destruction of the latter.

The attention of the College of Agriculture has recently been called to the fact that dodder has established itself in certain parts of Onondaga county in the alfalfa fields in a way to cause alarm as to final results.

Its presence is also reported in several other counties of the state. It is believed that unless it is intelligently combatted it will cause much loss to the farmers of the state. It is now too late to undertake repressive measures this season as the seeds are matured and on the soil, but it is hoped that the College of Agriculture will be able next spring to offer suggestions that will enable the farmers to hold it in check or completely exterminate it. In the meantime the College desires, if possible, to locate every clover or alfalfa field in the state that is infected with dodder, so that advice as to its treatment may be sent to the owners, and so that we may carefully watch the results of the treatments suggested.

In order that those unfamiliar with dodder my be able to recognize it we append a brief general description. The dodder plant has no true leaves. The stems consist of slender thread-

DODDER (*C. epithymus*) GROWING ON ALFALFA

like structures much resembling the silks of corn ears. These stems usually are of a yellow or golden color while fresh or they may be a reddish

pink. Some varieties wind themselves around the base of the clover or alfalfa stalk, and then interlace with one another close to the surface of the soil forming a close mat. One of these from Onondaga County seems to be a new species. Other varieties twine their stems all over the host plant something like a lot of cobwebs. The accompanying photograph shows one of these (*Cuscuta epithymus*) twining around the alfalfa stems. It will be seen that the dodder has no connection with the soil. Dodder appears in patches in the fields, and is likely to attract attention at mowing time. After the trouble has made some progress in a field there will be circular patches where the host plants have been partially or entirely destroyed and surrounding this a strip 2 to 4 feet wide where the struggle between the two plants is going on. Thus with succeeding generations of the dodder the circle representing the seat of war and the enclosed area showing its devastation are continually increasing in size.

THE AGRICULTURAL EXPERIMENTERS' LEAGUE OF NEW YORK.

By John Craig

Professor of Horticulture

There was held on the evening of March 3, 1903, in the Dairy Building, a very important mass meeting of the students of the College of Agriculture. At this meeting there was organized a league "for the purpose of carrying on co-operative experiments in the various departments of farm husbandry; for the promotion of intercourse among those studying farm problems; for the advancement of agricultural education; for the collection and dissemination of data relating to country life; and for the purpose of supporting legislation favorable to the promotion of these objects." There were to be two classes of members, active and associate. The active members are residents of the state of New York who have been connected as students with Cornell University or any other school of agriculture, or those who are engaged professionally in any agricultural investigation. In this way the Experimenters' League had its inception. Primarily, it is an organization of the students of the College of Agriculture for the purpose of fostering a spirit of investigation among farmers. It will be a powerful lever in carrying out agricultural reforms. The work of the League is divided into various branches. Each branch is presided over by a chairman. There are divisions of Field Crops, of Horticulture, of Animal Industry, of Economic Botany and Economic Entomology. The work of the chairmen of these divisions is co-ordinated by a Director of Experiments.

The committee which has had charge of the work of organizing and drafting the constitution and by-laws, and to whom great credit is due for completing it so successfully, was composed of the following members: Theodore Ross, special Nature-Study student in the Winter Agricultural Course, chairman; G. F. Warren, '03, secretary, assisted by T. C. Johnson, Fellow in Agriculture; F. A. Salisbury, Winter Agricultural Course; and Scott H. Perky, special in Agriculture.

The following officers were elected: Honorary President, I. P. Roberts; President, James E. Rice, C. U., '90; First Vice-president, S. A. Beach, Horticulturist, Experiment Station, Geneva, N. Y.; Second Vice-president, Jared Van Wagenen, C. U., '91, Cobleskill, N. Y.; Secretary-treasurer, John Craig; Director of Experiments, J. L. Stone.

The following names compose the list of charter members of both classes:

Active. — Nathaniel J. Hitchcock, F. A. Salisbury, Henry E. Haslett,

Orlo H. Perry, F. E. Bailey, Dwight E. Carley, F. H. McLaury, Lynn F. Ayer, Ernest P. Best, Hubert D. Gage, Webster F. Merrithew, Marvin Croop, S. M. Jones, J. Raymond Dillin, C. E. Nichols, R. W. Urtel, James B. Rymph, John Craig, J. L. Stone, Miss Martha Van Rensselaer.

Associate. — John R. Bodurtha, D. Curtis Stanion, Albert R. Mann, Simon Simpkins, Benjamin F. Garber, Bruce M. Wilmer, G. F. Warren, Christian Bues, J. Clarence Reist, T. C. Johnson, Robert Steele.

It is exceedingly gratifying to know that the membership list in both of these classes has grown rapidly since the organization of the League. There are at present 60 active members and 26 associate members.

Experimental Work.—On April 1st, the Director of Experiments issued a circular which outlined the active work which would be undertaken this year, and the particular lines of experiment which it was desired to inaugurate. These experiments were grouped under three heads: field crops, horticulture and animal industry. It was thought wise to concentrate rather than to dissipate the effort of the League.

Field Crops.— To this end the attention of the experimenters was focussed, in field crops, on alfalfa, with a view of bringing out the best methods of obtaining a catch; on oats, for the purpose of making a variety test; on fertilizers, with a view of determining influences of the three principal elements; on potatoes, to gather information in regard to the value of different varieties and methods of cultivation. In addition to these, sunflower was tested for silage; soy bean for forage and green manurial qualities; field beans and buckwheat, variety tests, and winter vetch for the purpose of determining its value as a soil renovator. A very hearty response to a circular setting forth the lines of work was received by Professor Stone, and in these particular features of field crops valuable work was done the past season.

Horticulture. — The horticulturist has been obliged to wrestle with peculiar climatic difficulties the past season, and these have prejudicially influenced the quality of results. Among the experiments tried were cover crops, for the purpose of ascertaining the adaptations of certain plants under shade and in the open; the amount of seed to sow per acre; and the amount of fertility yielded by each. Experiments were planned to demonstrate the value of ammoniacal copper carbonate as a preventative of peach and plum rot, and to demonstrate the influence of thinning stone fruits. In addition, a limited number of strawberry plants were distributed for test. It is gratifying to state that reports have been received from the majority of those undertaking the experiment whether it was possible to complete the work satisfactorily from the experimenter's standpoint or not.

In animal industry, methods of milking with a view of testing the value of the Hegelund method of milking were instituted.

On the whole, the organization has met with a very warm reception at the hands of graduates and ex-students. It will unquestionably prove a powerful bond of union, cementing the interests of the teachers and experimenters at the College and Experiment Stations with those of the rank and file of the farmers of this and other states.

The first annual meeting will be held in the month of January, the exact date of which will be announced later on. At this meeting we look for a grand reunion of the agricultural spirits, not only of 1903, but of those who have gone out in the previous decade, and even further back. We anticipate a great increase in membership at this meeting. The League has the active and cordial support of the Director and members of the instructing staff of the Cornell College of Agriculture, and there is no reason to doubt that its field of work will constantly widen and its sphere of usefulness continually increase as the years go by.

The Cornell Countryman

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SCOTT H. PERRY, - - Associate Editor

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DECEMBER, 1903

Announcement

For some years there has been a growing desire to establish an agricultural periodical at Cornell University. Such a publication is necessary in order to keep the former students in touch with each other and with the college, and to present the advances in agriculture. This is the mission of the CORNELL COUNTRYMAN. It is published by students and graduates of the College of Agriculture, and meets the hearty approval of the faculty; but the editors are responsible for the policy of the paper.

It is not our purpose to enter the field so well filled by the many excellent farm papers; but rather to appeal to the student of agriculture, be his work in farming, teaching, or investigation. In the CORNELL COUNTRYMAN we hope to voice the best in agricultural progress and agricultural teaching. We will present articles that deal with the larger problems of country life, the economic and social conditions, the rural school and the farm home. The results of scientific investigations and general agricultural news will be given prominence. Special attention will be given to news of former students.

The Farmers' Institute

Elsewhere in this issue we present an article on the Farmers' Institute. This has become a permanent feature of rural education. Each year it becomes a greater power for the uplift of agriculture. It brings much of agricultural science to those who are unable to attend the college. But it would still be a necessity if all farmers had received such a training, for there are always new problems to be discussed, new discoveries to be presented. Agriculture is a living and growing topic—the questions of to-day are not those of to-morrow. The institute is a business meeting for business men, but it does much more than to improve the material conditions. It teaches how to spend as well as how to earn; it banishes the farmer's low estimate of himself; decreases the petty jealousies which prevent intelligent co-operation; and helps to make that independent, whole souled, hearty man, who is the fiber and sinew of our nation.

As the institute has grown, the kind of instruction desired has entirely changed. The instructor must now be in touch with the best in agricultural practice and agricultural science. The New York Bureau of Farmers' Institutes recognizes this fact. The entire force has just completed two weeks of study, one at Geneva, and one at Cornell. This meeting of the institute workers with each other and with the experiment station men is an inspiration to all. It is to be hoped that it will become a regular practice. Director Dawley expressed a desire to have a similar institute next year.

Training for the Young Farmer

As we turn from the well developed Farmers' Institute to the opportunities offered the farm boy, we are met by a less cheerful prospect. We now have nature-study quite generally presented to the younger children, have good agricultural colleges and excellent farmers' institutes; but what of the training for the boy between the nature-study period and the college and institute age? Agricultural teaching has developed from the college on the one hand and from the primary schools, in the form of nature-study, on the other. There remain to be established agricultural high schools. In time we shall have many of these in the state. We understand that the Agricultural College of Cornell stands ready to establish the first one and get the movement on a good basis, as soon as the state provides a building for the accommodation of the work. Wisconsin, Minnesota, Iowa, Nebraska and many other states have started such schools of agriculture in connection with their state universities. We hope that the Empire State will be the next to provide for its farmer youth.

Agriculture for Rural Schools

Those interested in the progress of agricultural education may find two articles on that subject in October's *Review of Reviews*.

The first, which treats of the need of an articulated system of education for country boys and girls, instances successful trials, and is full of promise for the future. It is by Professor Willet M. Hays, of the University of Minnesota, and is entitled "Our Farmer Youth and the Public Schools." The city schools, from the primary grades to the high school and college, lead up one to the other according to a system that has been long under development. But there has been no such unity in the rural schools, which have not given attention to the special needs of the farm child, but have taught the same subjects as are taught in the city schools, and aim also to prepare for further education in the city high school. Here the youth is in most cases weaned from the country. The article makes clear the harm that lies in this condition of things, and tells how it has been overcome in a few instances, and how it may be universally replaced by a system that will train the country youth to take advantage of all the benefits of country living.

The second article is by Mr. O. J. Kern, County Superintendent of Schools, in Winnebago County, Illinois. A plea is made for a more practical education of the farm boy. Mr. Kern describes the successful conduct of a club he organized last year, called "The Farmer Boys' Experiment Club." A "Girls' Home Culture Club" has also been organized. In closing he quotes from our Dean that "The day is coming when agriculture—under other names, perhaps, and not as a professional subject—will be taught in public schools as a 'culture subject.'"

Irrigation in Humid Regions

The *Experiment Station Record* tells of the work of Mr. Elwood Mead, chief of the irrigation investigations, who spent the summer studying irrigation in the humid parts of Europe.

He considers that irrigation is certain to become a large factor in increasing crop production in the humid regions of the United States. The conditions which make it pay in Europe exist here. They irrigate, not because they have to, but because it pays.

and this where the annual rainfall is about 40 inches. The same crops are grown above the ditches as below them, the difference is in the luxuriance and perfection. The most remarkable results are obtained in the production of hay. In some parts of Italy where wheat and corn are grown, unirrigated land sells for about $100 per acre, the same land when brought under irrigation brings $160 to $180 per acre.

This seems to us a promising field for experiment, and it is to be hoped that some of the eastern experiment stations will give it serious consideration. As farming becomes more intensive, irrigation is certain to become a practice in some places in the East. Has not the time arrived when the experimenter should begin to give more attention to it?

Some work has already been done. We hope to present an article on the subject in the near future.

Chemistry of the Soil and Crop Production

"The Chemistry of the Soil as Related to Crop Production" is the title of Bulletin 22 of the Bureau of Soils. Probably no bulletin of recent date will cause more discussion. As will be seen from the following review, some of the conclusions cut squarely across the ideas formerly held by chemists. It is quite certain to arouse a considerable amount of vigorous research.

The procedure of the Bureau of Soils in its classification and mapping of soil types during the past ten years has been based upon the assumption that the adaptation of crop to soil is controlled by the water holding capacity of the various soil types. This water holding capacity depends upon four factors: namely, the texture of the soil, or size of the soil particles; its structure, or their arrangement in space; the natural underdrainage of the soil; and the physiographic position of the type. The results of surveys of 20,000,000 acres of various soils have gone far toward proving the validity of the selection of this group of soil characteristics as a basis for soil classification. At the same time, it has been recognized that the fertility of different portions of the same type varied considerably. It was therefore postulated that the chief factor controlling fertility must be the chemical composition of the soil solution from which plants directly secure their food. A method of water analysis was therefore perfected for the chemical determination of the character of soil solutions. 100 grains of the soil are taken, stirred vigorously for 3 minutes with 500 cc. of distilled water and the particles allowed to settle for 20 minutes. The supernatent solution is then decanted and filtered by the forced air Pasteur filter devised by Briggs. This filtered solution is then tested for various chemical elements.

In the work described by the bulletin determinations of calcium, potash, phosphoric acid, and nitric acid were made the basis for the conclusions drawn. Determinations of other elements or compounds were also made.

The results briefly summarized show that medium to good crops are recorded from soils giving less than 4 parts per million of phosphates, 3 parts per million of lime, 1 part per million of nitrates, and 8 parts per million of potash.

The average of 147 determinations show the following values in parts per million of air dried soil:

Phosphoric acid	7.64
Nitric acid	5.47
Calcium	11.67
Potassium	22.74

That is, in the normal soil solution there are present from 3 to 6 times as large amounts of dissolved plant foods as are necessary for the production of average crops. Moreover, it was shown that in many instances wheat crops of from 20 to 25 bushels per acre were being produced on soils whose solutions contained smaller amounts of the necessary plant foods than were present in soils producing from 2 to 5 bushels of wheat per acre.

In other words, the chemical composition of the nutrient solution contained in soils is not the controlling factor in the maintenance of soil fertility. The search for this controlling factor is definitely placed in the domain of physics. The actual amount of the soil solution contained in a soil and the rapidity with which it can move from place to place in the soil appear to be the true controlling factors in the quantity of crops produced. There remain to be determined the optimum physical condition for each soil type, and the methods by which this condition can be produced.

The bulletin discusses the influence of climate, soil texture, crop rotation, and varity upon the total yield. There is also a short discussion of the role of commercial fertilizers under this new determination of the factors controlling soil fertility.

"The conclusion seems jusified that, although differences in the dissolved salt content, or in the concentration and composition of the soil moisture, may be a factor in the yield as well as quality of a crop, it does not appear to be a major one in determining or controlling the wide variations observed in crop yields on different soils. It appears further that practically all soils contain sufficient plant food for good crop yield, that this supply will be indefinitely maintained, and that this actual yield of plants adapted to the soil depends mainly, under favorable climatic conditions, upon the cultural methods and suitable crop rotation, a conclusion strictly in accord with the experience of good farm practice in all countries, and that a chemical analysis of a soil, even by these extremely delicate and sensitive methods, will in itself give no indication of the fertility of this soil or of the probable yield of a crop, and it seems probable that this can only be determined, if at all, by physical methods, as it lies in the domain of soil physics.

"Finally, it seems appropriate in concluding this bulletin to quote the words, written a generation since, of one of the masters in agricultural science. Said Johnson, in 1870: 'It is a well-recognized fact that next to temperature the water supply is the most influential factor in the production of a crop. Poor soils give good crops in seasons of plentiful and well-distributed rain or when skillfully irrigated, but insufficient moisture in the soil is an evil that no supplies of plant food can neutralize.' "

Tuberculosis

At the recent meeting of the American Veterinary Medical Association held at Ottawa, Canada, a day was given to the discussion of human and bovine tuberculosis. It was conclusively shown that the two may be intertransmissable, and this conclusion was generally accepted.

The September meeting of the International Congress of Hygiene and Demography, held at Brussels, Belgium, came to the same conclusion. The opinion of the congress was expressed in a resolution recognizing the possibility of such intertransmission of

tuberculosis, and urging that the precautions for its prevention be vigorously continued.

At this meeting Arloing reported that he had succeeeded in making cattle immune by inoculation.

Pepsin a Substitute for Rennet

In the *Agricultural Student,* Professor Vivian discusses the successful use of pepsin as a substitute for rennet in cheese making. Several successful trials have been made on a commercial basis. The first prize at the Ohia State Fair was awarded to a pepsin cheese. Pepsin is more constant in strength and keeps better than rennet. There is at present practically no difference in cost.

A Profitable Dairy Farm

"How to Make a Living Out-of-Doors" is the heading for a series of articles that Professor Bailey will have in *Country Life* from time to time. In November's paper is a "Sketch of a Profitable Fifteen-acre Dairy Farm on the Outskirts of Philadelphia." This was chosen as the first of the series to illustrate what it is thought should be particularly emphasized, viz., that it is not the special or peculiar crops but the staple and reliable products that must always engage the attention of the far greater number of men; and therefore the endeavor should ever be to improve the ways and means of the production and distribution of these. "The common industries of to-day are likely to be common industries of the future, but they will be uncommonly well pursued."

The owner of the dairy farm is Rev. J. D. Detrich, who came by his present lay occupation against his intentions because "twenty years ago this little farm fell to him." He knew nothing about cows, but was open to suggestions and, furthermore, read up on the business until, in his success, he calls himself a "book farmer." He believes thoroughly in agricultural education.

The farm, very ordinary in its appointments, is most impressive for the things absent, but nevertheless is probably as remarkable as any other farm in America. Hardly more than thirteen acres are tilled, yet it grows roughage enough for the twenty-nine cattle and two horses. Of course the land is wonderfully rich, and the physical condition excellent.

The cattle do not leave the stalls winter or summer, but all about them is kept clean and wholesome, and their friendliness evidences kind treatment. They are fine Jerseys of strikingly uniform quality. More than half of them are always in milk.

The milk produced during winter and summer varies but little in amount and tests about 5.80 the year round. It is supplied to a sanitarium for consumptives, and therefore the most scrupulous care is taken to deliver it in perfect condition. 6½ cents a quart is received for it.

Corn Growing and Corn Growers

The *World's Work* magazine, always appreciative of agricultural industry, has in November's issue an article on "Corn Growing and the Corn Growers," by T. N. Carver, Professor of Economics in Harvard University. Last summer Professor Carver made an extended journey on horseback through the heart of the corn-belt, and considers that he was fortunate both in his selection of the means of locomotion and the route traversed. The Bostonian arrived at a conclusion that will bring a twinkle to the eyes of our

not undersensitive westerners, viz., that soon the East, with its barren fields, and not the West, abounding in utilized fertility, will be called "wild."

Professor Carver shows that corn growing is our largest industry, and illustrates the fact, often forgotten, that we are still pre-eminently an agricultural people. The importance of the feeding industry is treated at some length. He thinks that the skill required in corn growing will militate against extensive corn farms, the small farmer not needing to trust to unskilled labor, and therefore having a great advantage.

GENERAL AGRICULTURAL NEWS

The legislature of South Carolina has appropriated $40,000 for the erection of a central agricultural building.

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The legislature of Hawaii has appropriated $111,650 for the departments of Agriculture, Horticulture and Forestry of those islands.

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A new Agricultural College was opened at Moriaka, Japan, last April. The director is Professor Tamari, a graduate of the Michigan Agricultural College. The interest in agricultural education there is quite wide spread, as this is the third agricultural college in that country.

* * *

At Moravia, N. Y., a few weeks ago the best apples were selling at 25 cents per bushel. Apples of the same quality in Wayne and Ontario Counties were bringing $1.75 and $2.00 per barrel. This difference is to be explained by the fact that the apple industry in the former region is not large enough to attract many buyers and so cause keen competition. One western buyer was there and bought at the above price. He was shipping in bulk in cars lined with straw. Barrels are at a premium in all parts of New York.

* * *

An accident occurred recently in the Agricultural College at Columbus Ohio. One of the boilers exploded killing the engineer and assistant engineer, and also injuring a number of students, among whom was Professor Davis, a former Cornell man, now assistant in Agronomy in that college.

* * *

W. H. Bishop has resigned his position as Professor of Agriculture in the Delaware College to engage in dairy farming and stock breeding at Scarsdale, N. Y.

* * *

P. J. Parrot, of the Ohio State University, has been appointed entomologist at the Geneva Experiment Station where formerly he was an assistant to V. H. Lowe.

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The Civil Service Commission announces an examination for December 16, to fill the position of teacher of agriculture in the Indian service, salary $1,000 per year. Graduates of agricultural colleges are desired.

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Dr. E. E. Ewell, assistant chief of the U. S. Bureau of Chemistry has accepted a more lucrative position with the German Kali works.

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Of the 67 graduates of the Ohio Agricultural College, since 1892, 18 are engaged in agricultural college and experiment station work, 14 are employed by the U. S. Department of Agriculture, 30 are engaged in some form of farm work, 5 are in other callings.

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The Missouri Station has established a laboratory for animal breeding, in which it intends to investigate some of the applications of Mendel's law.

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Mr. W. J. Palmer has been appointed director of agriculture in the Orange River Colony, Africa, at a salary of $6,000 per year. Mr. Palmer is a graduate of the Ontario Agricultural College.

The Illinois College has an enrollment of 265; the Ohio College 207; the Minnesota School of Agriculture, which is a part of the college, 460, of which 150 are girls.

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An order has been issued revoking the quarantine against stock in Massachusetts and New Hampshire. The prompt and vigorous measures taken by Secretary Wilson have stamped out the dreaded foot and mouth disease.

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Departments of soil physics and farm mechanics have been added to the Iowa State Agricultural College.

* * *

A department of forestry has been established in Maine University, with W. N. Spring in charge. It is supported by the state. Harvard University and the University of Nebraska have also established departments of forestry.

* * *

During the last session of the legislature of Wisconsin the following appropriations for agricultural purposes were made: $25,000 for furnishing and equipping the new agricultural building, $15,000 for a farm engineering building, $10,000 for the purchase of improved live stock, and $10,000 for the purchase of additional farm lands.

* * *

The Kansas Agricultural College has begun the erection of a commodious auditorium, for which the last state legislature appropriated $40,000. The college has also, in the process of erection, a building for the exclusive use of the dairy department. This building will cost $15,000, and will contain class rooms as well as quarters for dairy manufacturing.

* * *

During the summer meeting of the American Pomological Society in Boston, a society of Horticultural Science was organized. Its purpose is to encourage the development of the scientific aspect of horticulture as distinguished from the popular side. Its membership will be composed largely of experiment station workers and teachers of horticulture. About thirty prominent horticulturists from different sections of the United States and Canada were enrolled as members, and others have expressed their desire to join. The officers elected were: President, L. H. Bailey; Vice-presidents, T. V. Munson, G. B. Brackett, E. J. Wickson; Secretary-treasurer, S. A. Beach.

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The Iowa Agricultural College has annually an excursion day, on which the people of the state are invited to visit the college. Over 15,000 people were present when this day was observed this fall.

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The Agricultural College of Ohio hopes to establish a regular university extension department soon. Some work has already been done.

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President W. D. Gibbs was inaugurated president of the New Hampshire College, October 28. The new agricultural building was dedicated the same day.

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Martin Prucha has been appointed bacteriologist, and E. B. Hart has been promoted to the position of assistant chemist at the New York State Experiment Station at Geneva.

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H. O. Woodworth of the New York State Experiment Station has been placed in charge of a poultry station just established in California.

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J. W. Hutchins has been appointed agricultural demonstrator at the Rhode Island Station. His work is to respond to calls to go to farms and give advice and demonstrations of spraying, soil management, etc.

* * *

South Carolina is a "hustling" little state. During July and August 32 farmers' institutes were held in different sections, with an aggregate attendance of 8,690. In addition a general institute was held at the state college with an estimated attendance of 1,500. The interest in insfitutes is rapidly increasing.

CORNELL NEWS

CAMPUS NOTES

Professor Roberts is enjoying the open air of California. Mrs. Roberts is visiting in Honolulu.

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The appointment of James E. Rice as assistant professor of Poultry Husbandry, gives Cornell the honor of being the first university to establish such a chair.

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The association of American Agricultural Colleges and Experiment Stations met at Washington the third week of last month. Cornell was represented by President Schurman Director Bailey, Professors Hunt and Stone, and Mr. Perky.

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The failure of the State Legislature to appropriate funds for the maintenance of the College of Forestry has necessitated the abandonment of that college. Many of its students are continuing the work in other institutions. Nine have gone to the Yale Forestry College, one to that of Harvard, and six to Michigan. A number have remained at Cornell and have entered other departments. Six of these are taking agriculture.

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The new horticultural building of the University of Missouri will be dedicated on the 9th of December. Professor John Craig will give the dedicatory address.

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B. B. Turner, who was recently an instructor in chemistry in Cornell University has been appointed chemist of the Storrs' Experiment Station, Connecticut.

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There are several organizations at Cornell intimately related to the college of Agriculture, among which are the Agricultural Association, the Lazy Club, the Log Cabin Club and the Jugatae. Lately there has been formed a consolidation of these organizations whereby each keeps up its individuality by continuing its meetings, but all assemble fortnightly in a meeting at which Dean Bailey talks on some topic of general interest. This convocation affords a good opportunity to become better acquainted with others in our own college whose work keeps them in separate departments.

An agricultural seminar of faculty and graduate students has also been formed. It meets once a month. The first meeting was devoted to a discussion of Bulletin 22 of the Bureau of Soils, "The Chemistry of the Soil as Related to Crop Production."

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During the past three months Sage Chapel has been closed and services have been held in Barnes Hall. The enlarged and newly decorated chapel will be ready for use about Christmas, and it is said that there will be no other university chapel in America equal to it.

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W. R. Dunlop, '05, attended the National Grange meeting at Rochester

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Professor Fletcher, who has charge of the Extension Work in Agriculture announces that there are already over 130 applicants for instruction in the winter course in dairy work and over 50 for the general agricultural course. The dairy building has been fitted up to accommodate a hundred. A much larger number is expected to take the general agricultural course, applications for which need not be made so far in advance as is necessary in the case of the dairy work.

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This fall the painting of Profesor Roberts, which was given by his present and former students and faculty, was hung in the general Library reading room. The portrait is pronounced an excellent likeness by all. It is a credit to the artist, Mr. Forbes.

A young lady and a teacher in a distant part of the state, writes to one of the departments of the College of Agriculture as follows:

"Is it true that your department offers a course for teachers fitting them to be farmer's wives? If so, save room for six of us. We will take post-graduate work also to make sure we are all right. Send course of study."

The letter has been referred to the department having a correspondence course known as Farmer's Wives.

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A few days ago a letter came from a farmer in southern France, who expressed appreciation of the Farmers' Reading-Course and a desire to take the work. He became interested in the course by reading a translation of a lecture on extension work delivered by Professor Craig in Quebec. The translation appeared in a French paper.

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It is interesting to note the popularity of the Cornell College of Agriculture, as shown by the various countries from which its students come. Brazil, Japan, Turkey, Cuba, Yucatan, Germany, Rumania, Peru, Chile, Argentine, Canada and other countries and provinces are at present represented here.

* * *

Governor Odell visited the University November 13 and 14. While here he gave an address to the students, reviewed the batallion and attended the Columbia-Cornell game. He also inspected the State Veterinary College and the Agricultural College. We understand that the question of the re-establishment of the College of Forestry and the building of an agricultural hall were discussed.

* * *

Professor Cavanaugh attended the meeting of the Experiment Station Chemists, held at Washington in the latter part of November.

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H. S. Lippincott, Sp. Agr., is in the Infirmary recovering from an operation for appendicitis.

Professor B. C. Buffum, director of the Wyoming Experiment Station, stopped in Ithaca for a few days on his way home from the recent convention of the Association of Agricultural Colleges and Experiment Stations. While here he addressed a meeting of the agricultural students in Barnes Hall, on the evening of November 24.

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Professor Thomas F. Hunt, Miss H. A. Ellsworth, M. C. C. Van Loben Sels, and C. Stinchfield, Jr., attended the recent New York Horse Show at Madison Square Garden.

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Yezo Hoshino, a graduate of the Imperial Agricultural College of Sapporo, Japan, has come to Cornell to take up agricultural work.

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Dwight E. Carley,'06, was obliged to leave the University several weeks ago. His father was injured seriously by a fall, and Carley was called home to take charge of the farm. He has a younger brother, but help is scarce and it is doubtful whether he can get back for some time, if at all this year. Carley is a good student and thoroughly enjoys his work. We hope to see him back again soon.

"I trust your new enterprise will be eminently successful, and I hope that it will be the means of doing great good and of forming a united bond among the students of the College of Agriculture.

"Yours sincerely,
"I. P. ROBERTS."

"For years I have been hoping that there would be such a paper, and I wish to congratulate all concerned.

"WILHELM MILLER,
"Editorial Department, *Country Life in America.*"

"I wish the C. C. all kinds of good luck. I have no doubt you will be able to make the paper a necessity to any one who has ever been to Cornell.

"A. E. STENE,
"Assistant in Horticulture, R. I. C. of of Agr. and M. A."

FORMER STUDENTS

In addition to the news, in each issue a complete record of some class will be given. By the end of the year we hope to have the record of each of the 1,100 former students. In order to make this department a success, we want to hear from every man who took agriculture at Cornell, and from every other Cornell man who is interested in agricultural work. Tell us what you have done since leaving Cornell and what you are now doing. Also mention others whose location you know. We need this information *immediately*.

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'88, B. S. Agr.—G. D. Brill has recently returned from the Philippines, where he was engaged in agricultural experiment work for the U. S. government, and is now at his home in Poughquag, N. Y. His brother, Thomas Brill, Jr., who was a special in agriculture in 1892, and was in the winter course in agriculture in 1894, is also on the farm at Poughquag.

'89, B. S. Agr.—Hoxie W. Smith is with the Borden's Condensed Milk Co. at Genoa Junction, Wis. In a letter to Mr. Bues he says: "I am in receipt of your letter of Oct. 22nd, relative to the forthcoming of the CORNELL COUNTRYMAN. We will keep our eye peeled to catch the first glimpse of the new man when he makes his initial bow, and will welcome him to our fold. God speed to your new venture. As the ancient Persian proverb runs 'May his feet never weary, nor his shadow be less."

'98, M. S. in Agr.—S. W. Fletcher. B. S. Mass. Agr. Col. Mr. Fletcher received his Ph.D. degree in horticulture at Cornell '00. He was two years professor of horticulture ot the Washington Agricultural College and School of Sciences, then at the University of West Virginia in the same capacity, and now has returned to Ithaca to take up extension work in agriculture, having been appointed supervisor of the Cornell Farmers' Reading and Winter Course in Agriculture.

'99, M. S. in Agr.—H. C. Price, '97 B. S. in Agr., Ohio State University, who was professor of horticulture in Iowa Agr. College, has been called to take Professor Hunt's place as dean of the Ohio State University College of Agriculture.

'02, Sp. in Agr.—Floyd S. Barlow spent two years at Cornell, and is now farm manager for A. C. Chase, South Onondaga, N. Y. He was married at Syracuse on October 15, to Sarah Estella Bedell, daughter of Mr. and Mrs. Milton J. Bedell of Syracuse, N. Y. Mr. and Mrs. Barlow will be at home after December 1st at Chase Farm, South Onondaga, N. Y.

'02, M. S. in Agr.—James Alfred Foord, '98 B. S. New Hampshire Agricultural College. Mr. Foord was Professor Wing's assistant in animal industry and dairy husbandry from 1901 to 1903. He is now professor of agriculture at the Delaware College, Newark, Delaware, having been elected to the position September 1, 1903.

'03, Sp. in Agr.—John W. Illston has been appointed State Milk Inspector, and will make his headquarters at Ithaca. Mr. Illston is one of the most enthusiastic supporters of the CORNELL COUNTRYMAN, and last year was the first to subscribe for a share in the paper.

'03, Fellow in Agr.—Thomas C. Johnson, '96 B. S. in Agr. and '00, A. M., University of West Virginia. Mr. Johnson received his appointment in September, and is now professor of horticulture in his Alma Mater. He was to have been editor of the COUNTRYMAN had he staid at Cornell.

'03, B. S. A.—Edwin J. Glasson left last August for Florida in the employ of Cosgrave Bros., of Pittsburg, Pa., who have lands at Dania, Dade county, Fla. The Cosgrave Bros. are setting out citrus and tropical fruits, and have also put in a large acreage to tomatoes. Mr. Glasson's address is "Dixie" Plantation, Dania, Dade County, Florida.

'03, Sp. Agr.—Avery O'Brien, died at Saranac Lake, N. Y., on July 17, 1903. He was the son of Dr. W. D. O'Brien, of Pittsburg, Pa. He enter-

ed Cornell in the fall of '02 as a special with the intention of changing later to the regular course in Agriculture. He left Ithaca in February with the fever, and for two months was on his father's farm in Maryland. In his weak condition he contracted consumption, and not improving on the farm he was sent to the sanitarium at Saranac Lake, but other complications set in, and he died July 17.

The *Alumni News* of Oct. 21, '03, contains the following about William M. Morgan, '02, B. S. A.: "Mr. Morgan died on July 6, '03, at Morgantown, West Virginia. He was 27 years old, and at the time of his death was assistant horticulturist at the Experiment Station, and teacher in botany in the University of West Virginia."

CLASS OF 1901

B. S. A.—Eugene M. Baxter taught Agriculture in the Belleville Union Academy, N. Y., until September, 1902, when he was recommended by Professor Roberts, and was appointed for three years at a salary of $3,600 as superintendent of the Agricultural Schools and Experiment Stations in the Argentine Republic.

Sp. in Agr.—Frank M. Cockburn is well remembered by every man in agriculture three years ago. He became farm superintendent of the George Junior Republic, at Freeville, N. Y., and raised the farm practice of the Republic to a high standard. He left Freeville early this year for a better position at Lyman's School, Westburrough, Mass., where his time is equally divided between the teaching and practice of agriculture.

Sp. in Agr.—Claudius Cole took the short course in agriculture in the winter of '02. He has just finished testing some cows at W. W. Cheney's, Manlius, N. Y. His address is R. F. D., Romulus, N. Y.

Sp. Agr.—Frank D. Curtis changed to special in forestry.

Sp. Agr.—Harry S. Curtis is now growing the famous Dade County tomato at Miami, Florida.

B. S. A.—Ralph W. Curtis is studying for an M. S. in Agr., and is on the editorial staff of the CORNELL COUNTRYMAN.

B. S. A.—Bryant Flemming is with Manning Bros., landscape architects, Boston.

B. S. A.—Harry M. Knox is with the Patrons Fire Relief Association, St. Lawrence County, N. Y. He attended the National Grange Convention which met last month at Rochester.

B. S. A.—Edwin J. Kyle, '02, M. S. in Agr., is now professor of horticulture in the Texas Agricultural College. He sends regards to all his Cornell friends.

Sp. Agr.—D. M. McLaury is president of the Northern and Southern Company, dealers in lumber, located at Cornell, Marion County, Fla. Martin J. Roess, '03, A. B., is secretary and treasurer of the company, and E. C. Welsh, '02, Sp. in Agr., is a part owner.

M. S. A.—J. C. MacDonald is a graduate of the University of Minnesota. He received his master's degree at Cornell in 1901, and is now editor of the Transvaal *Agricultural Journal*, conducted by the Department of Agriculture of Pretoria.

M. S. A.—Adams Phillips is probably at Thornton, N. Y. Perhaps we can provoke a correspondence by quoting his "write up" in the 1901 Class Book. "Adams Phillips was prepared at the Fredonia Normal School. He has been successful both in his studies and with the ladies, and it is reported that invitations will soon be out for the happy event. Stimulated by the prospects of a happy home he has finished his course in less than three years, and will manage one of his Pa's farms in the western part of the state."

Sp. Agr.—Percy Proctor, jr., was drowned in Cayuga Lake on July 27, 1901.

Sp. Agr.—F. H. Richards is well remembered both in '01 and last year when he came back after his successful canvassing trip through England. He is now in the employ of the Vermont Farm Machine Co.

B. S. A.—Roger M. Roberts is in business in San Francisco. He married Miss Daisy Fredricks of New York City, who was at Ithaca in the summer of 1900 attending Cornell's nature-study course. Mr. and Mrs. Roberts are residing at Palo Alto.

Sp. Agr.—Alonzo La Verne Roe was farm manager at Waterford, N. Y., but is now at the Walker Gordon Laboratory, Plainsboro, N. J.

B. S. A.—Spencer Roe was prepared for college in the Wolcott High School, and after teaching three years entered Cornell in the fall of '97. Losing his health in the winter of 1900 he left for the West within a month of completing the work required for his degree. On January 17, 1901, he died at Redlands, Cal. He was well known in his department of the University, and was honored and loved by his many friends.

Sp. Agr.—Joel C. Rogers, '90, B.S., Battle Creek College, is now instructor in agriculture and horticulture at the Cedar Lake Industrial School, Vassar, Mich.

B. S. A.—Arthur G. Ruggles was assistant in histology in professor Gage's department, but is now assistant entomologist of the Minnesota Experiment Station.

Sp. Agr.—A. H. Sagendorph is a farmer and Guernsey breeder at Spencer, Mass.

Sp. Agr.—Boyd Delos Staley was one of our colored students, and won friends of all who knew him. We have heard indirectly that he died some time ago, but so far have learned nothing definite.

Sp. Agr.—Grace M. Stanyon is stenographer in Profesor Hunt's office.

M. S. in Agr.—A. W. Stubenrauch, '99, B. S., University of California. Mr. Stubenrauch held the fellowship in agriculture during '01, and after leaving Cornell accepted a teaching position at the University of Illinois. In the spring of '02 he was appointed state inspector of the Agricultural Experiment Stations of California. He later accepted an instructorship in horticulture at the University of California, and is still holding this position.

B. S. A.—John B. Tiffany is a senior in the Veterinary College.

B. S. A.—William B. Tooley is on the home farm at Raceville, N. Y.

B. S. A.—Gilbert M. Tucker, Jr., is in the office of the *Country Gentleman* at Albany, N. Y.

B. S. A.—M. M. Underdown, '02, M. S. in Agr., is in agricultural work at Piracicala, State of San Paulo, Brazil. "M. M," holds the following enormous official title—Director of Model Fazenda connected with the Luiz de Queroz School of Agriculture. Mr. Underdown writes that American methods are coming more and more into use, and that in Brazil there are opportunities for rapid advancement for properly equipped graduates of American agricultural colleges. It was through Mr. Underdown that Alfred Hammar, a Swedish student who was in the employ of the Government Zoological Department of San Paulo, came to the U. S., entered the College of Agriculture this fall, and is now studying in Professor Comstock's department.

Sp. Agr.—William E. Underdown is back on the home farm at Taughannock Falls, N. Y.

B. S. A.—Delos L. VanDine is still entomologist at the Hawaii Agricultural Experiment Station. He recently published a bulletin on "Insecticides for Use in Hawaii."

B. S. A.—George H. West is at Reber, N. Y. Recently he was supervising some milk tests for Prof. Wing.

Sp. Agr.—Mary Williams is now the wife of G. D. Brill, '88, who is mentioned above. We have just received news of the arrival of a daughter in the family.

As yet we have not heard from the following 1901 men. Anyone knowing their whereabouts will help us greatly by writing at once:

Ex. '01, B. S. A.—John A. Bluford. Specials in Agriculture: C. W. English, G. M. Keller, N. D. McLeod, R. B. Mathews, A. Millerd, E. W. Myers, O. C. Pratt, R. W. Reed, W. A. Reinhold, C. C. St. John, E. H. Sewards, I. G. Staneff, Teko Staneff, H. S. Stone, B. C. White, G. M. Taylor, N. Taylor, L. H. Williamson.

Cornell University

College of Agriculture

The College of Agriculture is one of several coordinate colleges comprising Cornell University. The work of the College of Agriculture is of three general kinds: The regular teaching work; the experiment work; the extension work. The courses of instruction fall in the following groups:

1. Four-year course, leading to the degree of Bachelor of the Science of Agriculture. As a variation, the last two years may be chosen in subjects pertaining to landscape architecture and out door art. In the Graduate Department of the University, students receiving the above degree may secure the Master's and Doctor's degrees (M. S. A., and Ph. D.)

2. Special two year courses. (a) Agricultural Special. (b) Nature-Study Special.

3. Winter-Course of 11 weeks: (a) General Winter Course. (b) Dairy Course.

Staff of the College of Agriculture, 1903.

L. H. Bailey, Director.

I. P. Roberts, Professor of Agriculture, Emeritus.

Agronomy:
T. F. Hunt,
S. Fraser,
J. L. Stone,
J. W. Gilmore,
G. W. Tailby.

Animal Husbandry:
H. H. Wing,
J. M. Trueman,
J. E. Rice (Poultry Husbandry).

Dairy Industry:
R. A. Pearson,
J. M. Trueman,
H. C. Troy,
W. W. Hall,
W. E. Griffith.

Horticulture:
John Craig,
R. S. Northrop,
S. W. Fletcher,
C. P. Hunn.

Agricultural Chemistry:
G. C. Caldwell,
G. W. Cavanaugh,
S. A. Rizzell.

Soils:
J. A. Bonstrel.

Entomology:
J. H. Comstock,
M. V. Slingerland,
A. D. McGillivray,
W. A. Riley.

Plant Pathology:
James M. Van Hook,
H. H. Whetzel.

Rural Economy:
L. H. Bailey,
G. N. Lauman.

Nature Study:
J. W. Spencer,
Mrs. Comstock,
Alice G. McCloskey.

Reading-Courses:
S. W. Fletcher,
Martha Van Rensselaer.

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